



AQMD's Clean Fuels Program

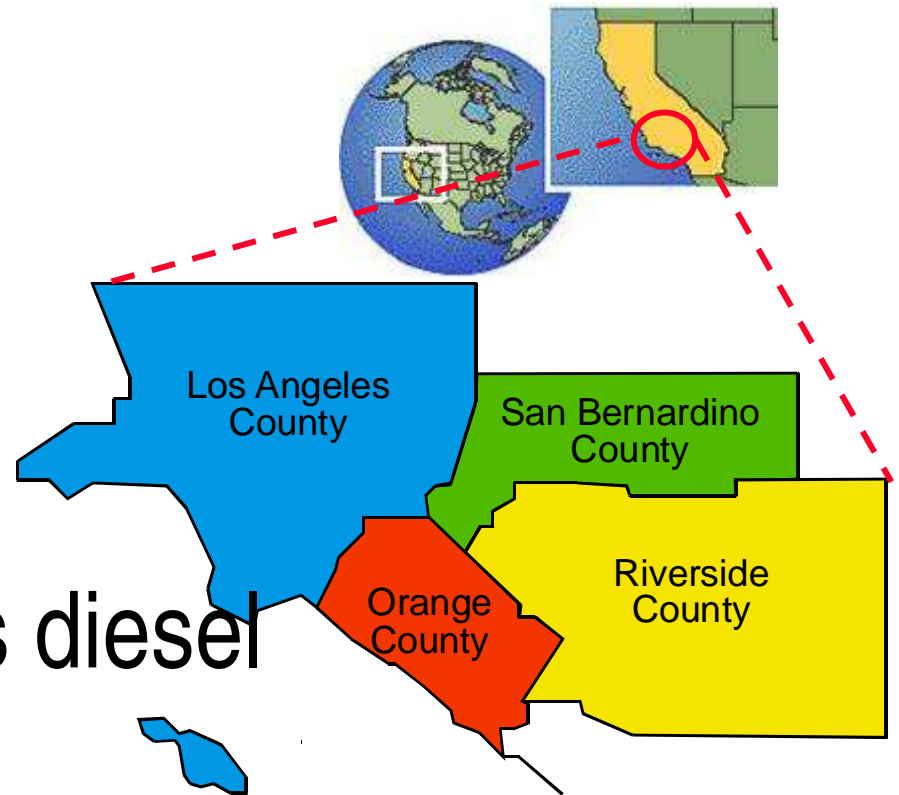


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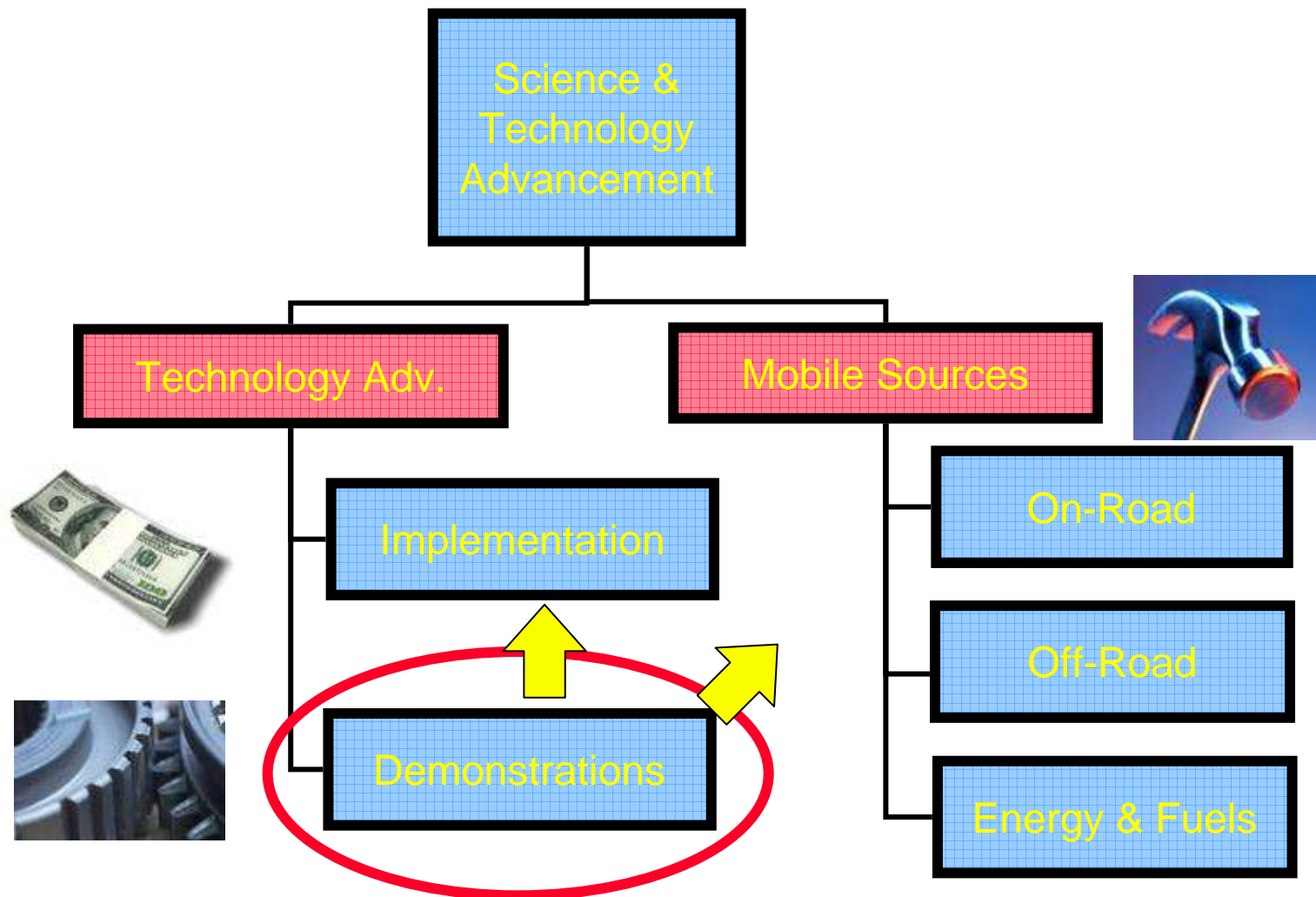
AQMD Background

South Coast Basin:

- 4-county region
- 11,000 sq. miles
- 16+ million residents
- Hundreds of thousands diesel vehicles
- Millions of gasoline vehicles

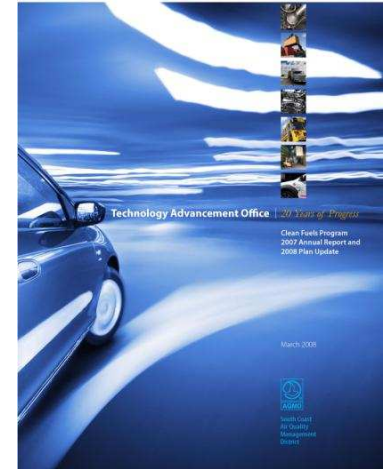


Technology Advancement Office



Clean Fuels Program

- Established in 1988
- \$1 fee on DMV registrations (\$~12 million/year)
- Stationary source fee (~\$400,000/year)
- Co-Funds projects to research, develop, demonstrate, and deploy (*RDD&D*) clean technologies



Technology Advancement Priorities

- Diesel Alternatives - Clean Alternative Fuels in Heavy-Duty Engine Applications
- Electric and Hybrid Electric Technologies
- Off-Road Applications of Alternative Fuels
- Fuel Cells and Hydrogen for Transportation and Stationary Applications
- VOC Reduction Technologies for Stationary Sources
- BACT Program Administration

Advanced Technologies

Near-Term

- Aftertreatment
- Emulsified Diesel
- HD Natural Gas Engines
- Natural Gas Fueling Infrastructure
- Advanced Diesel Engines
- Hybrid Vehicles (Plug-in & Hydraulic)
- Gas to Liquid Fuel
- Renewables/Biofuels
- H2 Technologies & Refueling
- Fuel Cell Vehicles



Longer-Term

Heavy-Duty Engines



- Advanced Heavy-Duty Natural Gas Engines
- Hydrogen-CNG Internal Combustion Engines
- Diesel Engines



Plug-In Hybrids

- Hybrid Electric Vehicle with larger battery to allow zero-emission miles
- Electricity in Transportation
- Partnering with EPRI and DaimlerChrysler



Zero Emission Vehicles Examples

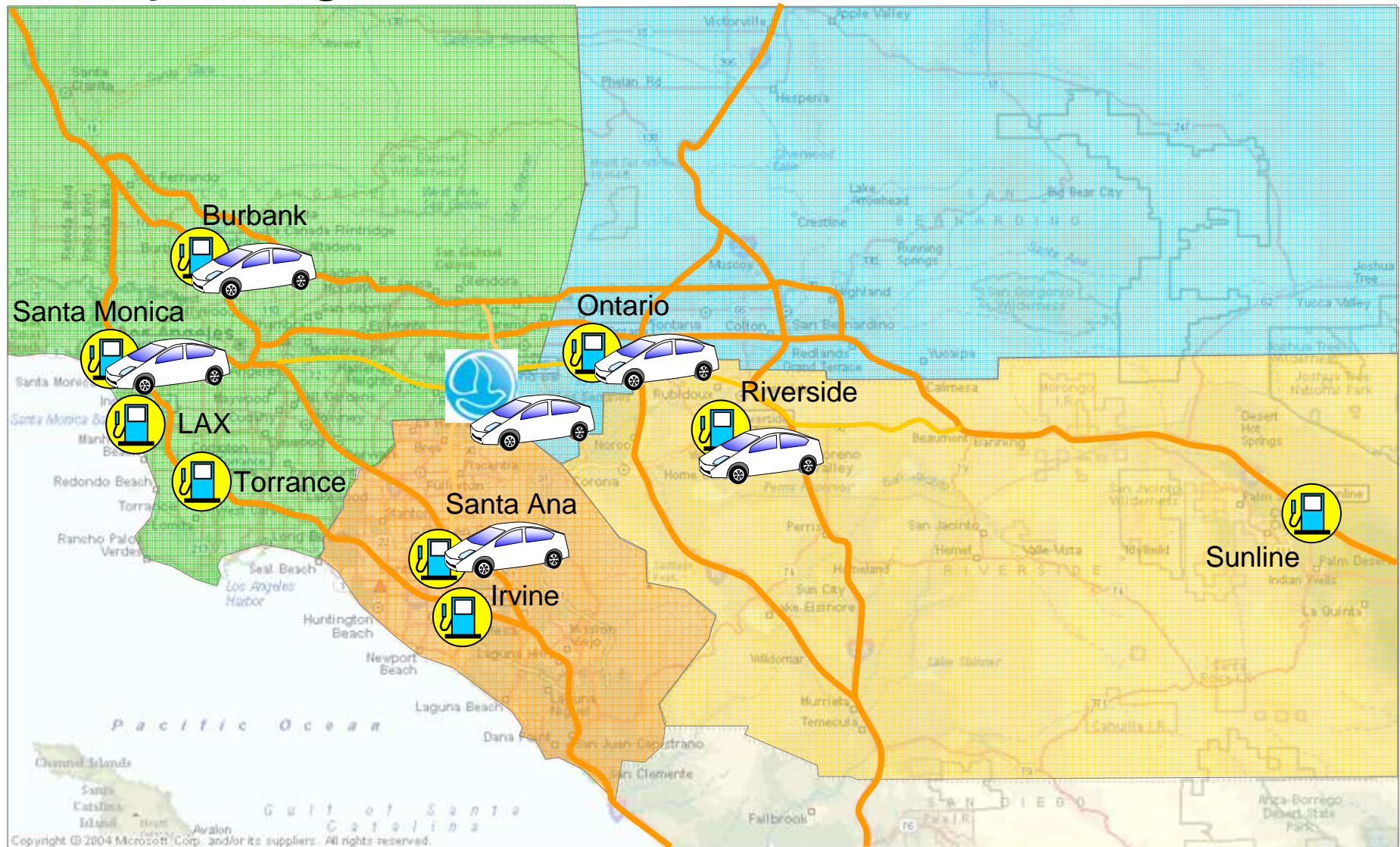


History on Hydrogen and Fuel Cells

- In 1989, the AQMD co-funded \$2.4M with the DOE to develop a fuel cell/battery powered transit bus
- In 1991, the AQMD contributed \$1M to the first Ballard Fuel Cell Bus project
- In 1992, the first-ever commercial stationary fuel cell unit was installed at the AQMD



Hydrogen Demonstration Stations



AQMD Hydrogen Station

- Opened August 13, 2004
- First Southern California Hydrogen Highway Network Station



Hydrogen Vehicle Demonstrations

- 2 Honda FCX
- 1 DaimlerChrysler FCell
- 30 H2ICE Prius



Fuel Cell Vehicles

- Assisting in demonstration major OEM vehicles
- Steering Team Member of CA Fuel Cell Partnership

